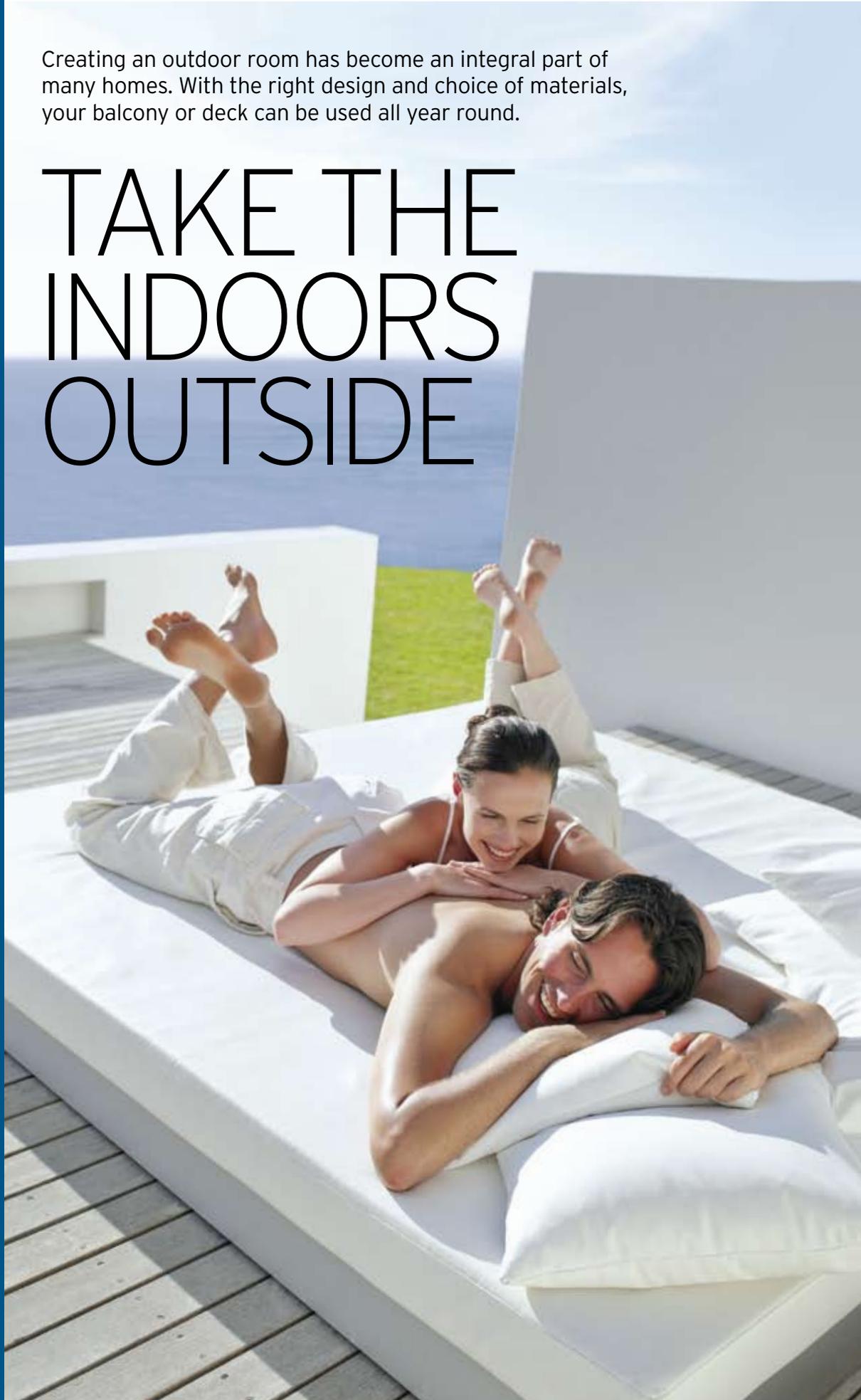


Creating an outdoor room has become an integral part of many homes. With the right design and choice of materials, your balcony or deck can be used all year round.

TAKE THE INDOORS OUTSIDE



Quintessentially Australian: the outdoor room featuring Scyon™ Linea™ weatherboard on the main house.



While it doesn't have to look like a conventional space, the outdoor living space should feel like it's part of the house.

WITH OUR LOVE OF THE GREAT outdoors, it is no wonder that many home owners want to bring the outside in – and the other way round. No longer is the backyard just the place for the Hills hoist, it's become an integral outdoor room. It's a trend that is the central theme of celebrity landscape designer Jamie Durie's book, *The Outdoor Room*. And it's a message he's taken internationally on his regular discussions on *Oprah* about its central role in good living.

Durie isn't the only one espousing the benefits of the great outdoors. Architects and interior designers believe that outdoor living has become a key component of today's contemporary exteriors, providing not only increased space, but also greater resale value for the home.

It's a change from older-style apartment complexes, which rarely feature balconies. Today, no structure is complete without a sizable outdoor area that not only provides a place to have a morning coffee or summer barbecue, but may also feature balcony vegetable gardens or, at the very least, a few strategically placed pot plants.

They may be quickly erected on television lifestyle programs, but if you attach a deck or balcony to the house without serious planning and smart design,

it runs the very real risk of becoming a white elephant. You need to think about how and when you will use it, orient it with the aspect in mind and consider your shading needs. It needs to be adequately waterproofed to stop damage either to the outdoor living area or to the home's interior during heavy rain or even flooding.

If you are planning to entertain a lot, you might want to consider installing an outside kitchen, which will require plumbing, power and lighting to be worked into the design. Typically, most decks and balconies feature a barbecue and some big plants in pots, so they need to be structurally sound enough to support their weight, as well as that of your guests. There's a lot to think about and it won't just be the success of your parties or the value of your property that's at stake. Poorly constructed balconies are at risk of collapse, so lives can depend on getting it right.

THE TRENDS

DID WE GET IT BACK TO FRONT?

According to Ian Bassett, President of the NSW branch of the Building Designers Association (BDA), Australian homes have always had balconies or verandas tacked

onto the front, but he says these were “largely a waste of time because sitting out the front of the house isn’t part of the national psyche”.

Recognising this, but with people still wanting to make the most of their garden, there was a trend towards building timber decks in the 1970s and 1980s. These were often built by DIYers, and have, unsurprisingly, experienced many problems as time has passed. If the timber hasn’t been adequately protected, then termite attack can be an issue. Some decks collapse due to water damage, overloading or inadequate foundations.

Now, with lot sizes shrinking and the trend of children staying at home longer, the old timber deck or narrow upstairs balcony that was mostly used to dry underwear and towels has to become more functional. It has given way to a smart wood or tile finish laid over a strong, adequately drained and waterproofed substrate. These spaces now have their own unique identity that – when done well – can add substantial value to a home.

CONNECTING THE INSIDE AND OUTSIDE

While it doesn’t have to look like a conventional space, the outdoor living space should feel like its part of the house, according to architect and building designer Bassett. He says this kind of connection is most readily made by using building materials that can flow from the true interior into the indoor-outdoor room.

For example, couple an internal wooden floor with an external timber deck, or an internal tiled floor with an external tiled floor. This works as long as there is an adequate height difference between the indoor and outdoor surfaces to ensure that water pooling outside in a downpour doesn’t flood the home’s interior. Large-format pavers look stylish and create a sense of space, which is especially good if you live on a smaller block.

Bifold doors integrate the home and the outdoors. They also let in lots of light and encourage airflow, thanks to the way they open. However, designers like Jamie Durie warn floor-to-ceiling windows or French doors may be more suitable in some climates, as bifolds can warp.

Although being in touch with the elements is fundamental to the nature of outdoor living, protecting both people and furnishings from the baking sun or

drenching rain calls for either a permanent roof or awning, retractable canvas awnings or adjustable louvred roof systems. These louvres can be motorised and even linked to automatic sun and wind sensors. Ceiling fans can be fitted to help air circulate in hot weather, while winter’s chill can be kept at bay with electric and gas patio heaters and outdoor fireplaces such as braziers, fire pits and chimineas.

FURNITURE, WATER AND OUTDOOR COOKING

To provide timeless style with an industrial edge, designs now feature recycled and renewable items in structural timber and outdoor furniture.

Water features continue to be popular, while an idea increasingly gaining traction among the design community is a feature wall built from panels of stoneware offcuts. This was one of the key elements in the outdoor room design that won Jamie Durie his 2008 Chelsea Flower Show Gold Medal. It has a retro stacked-stone effect, and uses just a fraction of the material of solid stone while retaining its traditional weight and elegance.

Replacing the rusty barbecue are fully equipped outdoor kitchens with quality finishes, a range of appliances and ⇒

RECOMMENDED PRODUCTS

Scyon™ Secura™ exterior flooring is a balcony flooring product that can be gun nailed. It is easy to cut, like timber, and has an extremely high resistance to moisture. It is sealed on all sides with an advanced polymer coating that helps protect the board from moisture-related problems. A topcoat on the surface of the board provides good adhesion. The mesh reinforcement on the underside enhances the heavy-duty performance of the Scyon™ material, adding extra strength and impact resistance to deliver a suitable external residential flooring substrate. For balconies that aren’t over habitable rooms, such as verandas, no additional waterproofing membrane is needed once Secura exterior flooring is installed. For balconies over habitable rooms, a waterproofing system needs to be applied; but waterproofing and Secura exterior flooring help give you peace of mind.



HardiFlex® sheets with battens are used for walls and ExoTec® facade panel and fixing system for ceilings in this Queensland home.



Scyon™ Secura™ external flooring is used on these decks.

WHAT DOES IT COST?

The cost of building a balcony, deck, terrace or other form of outdoor room varies widely depending on design, size, fixtures, fittings and construction materials used. According to a study* outlined in *The Smarter Construction Book*, the most commonly used balcony substrate is particleboard or chipboard, which after installation and waterproofing comes in at around \$51 per square metre over a non-living space. In contrast, James Hardie's lightweight, easy to install Secura exterior flooring (a balcony specialist product with great strength and high resistance to moisture and impact) can be supplied and installed (it doesn't need waterproofing over a non-habitable room) for about \$58 per square metre. Costs are higher over an interior living area, but then what's the price of peace of mind?

*The study analysed costs involved in building parts of a typical double-storey home, and were prepared by estimators currently working in a New South Wales-based production building company. While costs have been prepared on a conservative basis, actual costs depend on many factors, including individual designs, locations and a building firm's supply agreements.

built-in storage. Teppanyaki hotplates, wok burners, pizza ovens and deep fryers now line up next to the traditional multi-burner gas grill, accompanied by a mini fridge, sink and even a dishwasher.

As houses have become larger and lots smaller, nature seems to have given way to concrete, paving or decking. But now plants are making a stylish reappearance in the outdoor room, not just in pots but as living, green walls. These soil-less gardens – planted in growing medium on metal frames attached to load-bearing walls – have brought plants to the most unexpected places.

It goes to show that designing your balcony or deck doesn't stop when the structure is complete. Plants or landscaping ideas are essential. Television shows like FoxTel's *Dry Spell Gardening* show that a planning the garden is integral to creating an outdoor room that you're actually going to use and enjoy. Green walls and vertical gardens, which simulate plants growing out of a cliff, can be created in the narrowest spaces; lower-tech green-wall solutions might include espaliered fruit trees (trained to grow flat against a wall or trellis) and fragrant vines, like Star Jasmine, that have been trained to grow along a sunny wall, or even walls of orchids.

DESIGNING YOUR OUTDOOR ROOM

A ROOM FOR ALL SEASONS

In terms of visual appeal, US-based landscape architect Martin Wade from Martin Wade Landscape Architects advocates thinking about how the space will be used in all four seasons. He says that even if it won't be used during colder months, it should still be attractive from indoor rooms.

Consider what time of day you will mostly spend enjoying your outdoor room. If that happens to be at night, then lighting will be an integral part of the design. You will also need to ensure the scale of the various built elements and furnishings (factoring in storage space for cushions and other accessories) is appropriate to the size of your overall space. In a small space, every centimetre counts.

WATCH YOUR STEP

While contemporary design is all about the interior flowing seamlessly to the exterior, there still needs to be a small step down to the balcony/deck/terrace to ensure that water pooling on the exterior surface



This Perth home features Scyon™ Linea™ weatherboard and HardiTex® system.

doesn't flow indoors. The substrate, which goes between the supporting joists and tiled flooring, needs to be waterproofed using an appropriate product. Furthermore, the whole outdoor area also requires good drainage to minimise damage to furniture and fittings through long-term exposure to the elements (make sure you refer to "Your balcony/deck construction checklist").

Railings are very important, both from an aesthetic and safety perspective. Regulations on the height of railings and the gaps between rails vary between councils, so check to ensure you are complying. If you are planning to use stainless steel wires or balustrading, these will need to be spaced close enough together so young children cannot fall through. Another safe and stylish option is reinforced glass.

PROFESSIONAL DESIGN AND CONSTRUCTION

While it's important to have a vision of what you want the finished outdoor living space to look like, in order to build a balcony or deck that stands the test of time, you also need to consider mundane issues including council regulations, building codes and engineering specifications.

"There is an inherent danger of collapse in all balconies, decks and elevated structures unless they are constructed properly," comments Ian Bassett.

"It is such a serious problem that balconies and decks have their own design code and you may need a building designer/architect or even structural engineer to ensure the proposed structure is suitable for the site.

"Then you will need to employ a competent builder to ensure the work is carried out to a satisfactory standard and the materials used meet the manufacturer's specifications."

Check with a qualified professional such as an architect, building designer or structural engineer about the structural loading capacity of your proposed terrace/deck/balcony. Not all buildings and ground types can support the same loads, and many buildings may not be able to withstand the weight of the materials you might be thinking of using. Consider lightweight material options, and ensure they have been specified by the manufacturer for external use.



DISASTER-PROOFING

WHAT CAN GO WRONG?

According to the Victorian Building Commission's publication *What You Need to Know About Maintenance of Balconies*, approximately 6% of Australian houses have a timber balcony or deck, and about 2% cent of these are potentially fatal. The most at risk are on houses built between 1970 and 1990, when balconies became prevalent and there was widespread use of inappropriate timber. Some were also built without building approval or had inadequate structural design and poor workmanship.

This is underlined by recent balcony collapses reported in Sydney and Melbourne in 2008. Over time, a balcony's structural integrity can be affected by termite attack or wet rot caused by constant exposure to moisture. Coastal areas may result in corrosive environments which can affect unprotected steel structures, reinforcing steel and fixings such as bolts and fixing plates. Overloading can occur with large pots, water features and too many people. Therefore, it's essential to use appropriate materials and design the balcony/deck to maximise the structure's safety and longevity. ⇒

This balcony features Scyon™ Linea™ weatherboard and Scyon™ Secura™ external flooring.

Over time a balcony's structural integrity can be affected by termite attack or wet rot caused by constant exposure to moisture.



Exposure to the elements means waterproofing your outdoor room is vital.

TRADE SECRET

» DO YOU HAVE A THERMAL BREAK?

By their nature, these outdoor areas are much more exposed to the elements than the interior. Architect Dick Clarke from Envirotexture, an environmentally sustainable design specialist, suggests that concrete balconies and decks should be disconnected from the main structure of the house at the wall line. "This creates a thermal break that will help control inside temperatures," he says.

THE BIG ISSUE: WATERPROOFING

Inadequate waterproofing is probably the biggest issue faced during the construction of balconies and decks. According to Steve Peluso, a director of Master Menders, one of Victoria's largest building insurance rectifiers, fixing defects in new homes accounts for about 40% of his business. Of that, flooding from water coming in from balconies accounts for 20%. On the renovation side, balcony failures account for about 40% of the defects.

"About 20% of the defects fixed by insurers on new homes are related to water ingress from balconies at an average cost of between \$12,000 to \$15,000 each time," says Peluso. "Costs tend to be higher on renovation rectifications, with balconies costing between \$15,000 and \$17,000 to fix."

He believes it all comes back to cost, suggesting that these problems commonly occur because the builder hasn't quoted or budgeted enough for the project. Therefore, the builder has had to cut corners to make up the difference.

"As a result, he may do his own waterproofing, which is fine if he knows what he is doing, but not if he doesn't know what he's doing or uses the wrong materials," he comments.

Occasionally, such as in an upmarket Melbourne apartment complex currently being repaired by Master Menders, the chipboard substrate on the exposed balconies has had tiles stuck directly onto it, with no waterproofing layer in between. Water has penetrated and in some spots the tiles have caved in altogether; water has also penetrated the soffit lining on the other side and caused that to collapse too. All 40 balconies in that building are in the process of being replaced.

According to Peluso, when they do replace it, a product like James Hardie's new Scyon™ Secura™ exterior flooring will be used to help protect the tiled balconies in this building against moisture damage. Secura exterior flooring has extremely high moisture resistance and is a smart alternative to commonly used particleboard or chipboard products.

Peluso says poor design is another contributor to balcony failures. "Sometimes a designer has recommended chipboard flooring for external use, with no threshold below doorways or windows, so you can't create an up-stand with the membrane." He goes on to say that when the fall is so slight that there's little opportunity for water to run away on the balcony, the builder usually gets the blame. ■

YOUR BALCONY/DECK construction checklist*

If you don't get your balcony or deck right from the start, your beautiful outdoor room could turn into a costly nightmare. So make sure you address everything on this checklist. The Building Commission of Victoria suggests the following:

- Seek the appropriate approvals** to ensure the balcony is designed and constructed legally.
- Ensure the balcony is constructed following the issue of a building permit** (ask your local council about this).
- Make sure it's inspected on a regular basis** for any early signs of potential problems.
- Introduce a maintenance program** to extend its design life, and, where there is a doubt or problem, get an inspection by a structural engineer or other suitably qualified building practitioner. Remedial measures should be taken where necessary.

IN THE CASE OF TILED BALCONIES/DECKS:

- Provide adequate falls away from the house.**
- Ensure a minimum 150mm difference** between the finished balcony surface and indoor floor level.
- Use a water-resistant substrate** and a durable floor surface membrane and appropriate flashing.
- Provide effective drainage and careful detailing** around drains to ensure inlets are below the level of the surrounding balcony and can be cleaned easily.
- Provide overflows in case drains become blocked**, or their capacity is exceeded.
- Provide correct handrail fixing** – making sure the area around the upright supports is correctly waterproofed as well – and ensure handrail height meets regulations.
- Provide 50mm minimum clearance** between the base of wall claddings and the surface of the balcony.
- Ensure building products are used according to manufacturer's specifications.**

*This is a general checklist and does not replace the installation requirements of individual manufacturers. 

TRADE SECRET

»» DOES YOUR SUBSTRATE SWELL?

The problem with a number of common timber-based flooring substrates is that they can shrink and swell when wet. James Hardie National Technical Manager Anthony Milostic says that to avoid this, Secura exterior flooring is made from Scyon™, an advanced cement composite that's described as homogenously resistant to moisture damage. "Simply put, this means that if the material does get wet, it won't deform, causing tiles to crack and pop, or lose its structural integrity," he says.

What lies beneath? Scyon™ Secura exterior flooring.

Your balcony or deck will stand the test of time if you're smart about the way you build and maintain it.

